AI and automation—challenges in adoption

While the pace at which AI solutions are getting built has improved significantly over the last few years, the success of adoption of AI solutions is still low. For example, the self-service automation adoption in many mature client instances is still less than 15-20%, based on our experiences and market observations.

The critical question, therefore, is: How do we ensure that we are applying AI at the right place in the right process at the right time? Figure 1 illustrates the key issues of this gaping adoption trap of AI, and suggests a few innovative ideas to get around the issues.
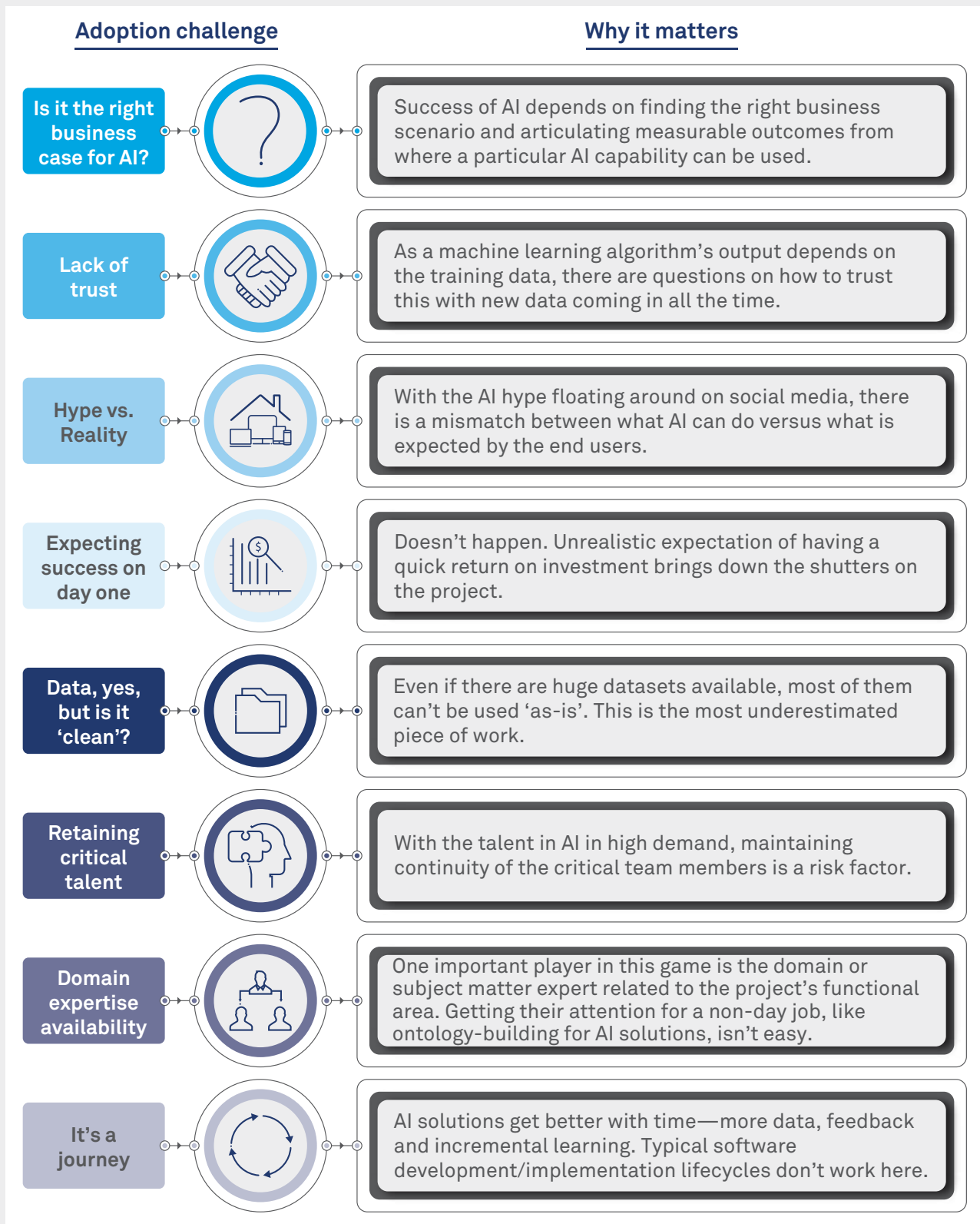
Adoption challenge	Why it matters
Is it the right business case for AI?	Success of AI depends on finding the right business scenario and articulating measurable outcomes from where a particular AI capability can be used.
Lack of trust	As a machine learning algorithm's output depends on the training data, there are questions on how to trust this with new data coming in all the time.
Hype vs. Reality	With the AI hype floating around on social media, there is a mismatch between what AI can do versus what is expected by the end users.
Expecting success on day one	Doesn't happen. Unrealistic expectation of having a quick return on investment brings down the shutters on the project.
Data, yes, but is it 'clean'?	Even if there are huge datasets available, most of them can't be used 'as-is'. This is the most underestimated piece of work.
Retaining critical talent	With the talent in AI in high demand, maintaining continuity of the critical team members is a risk factor.
Domain expertise availability	One important player in this game is the domain or subject matter expert related to the project's functional area. Getting their attention for a non-day job, like ontology-building for AI solutions, isn't easy.
It's a journey	AI solutions get better with time—more data, feedback and incremental learning. Typical software development/implementation lifecycles don't work here.

Figure 1: Adoption challenges and why it matters

Finding the right business scenario where a particular AI capability can be used, is the biggest challenge.

Activity 1: Brainstorm with your solutioning team—is it the right business case for AI?

With a lot of focus on AI and ML technology, we sometimes tend to forget the goal—solving the business problem and making it simpler. While top AI and ML algorithms are used to automate, are we applying them in the right place in the business process? Finding the right business scenario where a particular AI capability can be used, is the biggest challenge.

Before you embark on a journey, fix your target destination. Clearly articulate what success will look like, what are the possible constraints or hurdles on the way (e.g., the adoption trap issues). Brainstorm with your teams and spend more time on selection of right business cases, targeted outcomes and RoI, rather than starting early with choice of tech platforms or algorithms.

Activity 2: Analyze the depth of the "Lack of Trust" factor

All of us are used to rule-based systems for decades now. We know it works for sure, but it certainly has its limitations. With AI, there are still a lot of question marks on its accuracy. As a machine learning algorithm's output depends on the training data, there are questions on how this can be trusted with new data coming in all the time.

Involve data scientists plus domain experts early on to analyze and pre-process the data first—in terms of experimenting and discovering hidden biases, if any, quality of resolutions and knowledge items supplied or available, quality of inputs and feedback.

Activity 3: Communicate clearly within your team first and then with all stakeholders—the difference between "Hype vs. Reality"

There is a lot of hype around what AI can do. With such hype floating around on social media, there is a mismatch between what AI can do versus what is expected by the end users.

Organize weekly focus group discussions at the initial stages of AI solutions ideation, selection and journey-mapping, involving business sponsors or stakeholders and customer representatives, as well as engineering leaders. This is a trade-off exercise between the art of the possible and science of the real. For example, a lot of bleeding edge AI algorithms have been proven in the world of games (e.g., reinforcement learning), but their suitability is questionable in solving uncertain business domain problems where the state-space and dimensions can be completely unknown and disruptive. In business domain, especially when quality historical data is available, with annotations or opportunities for good labelling, supervised learning techniques often seem the most practically feasible ways to solve well-known problems like classifications or recommendations, rather than doing too much experimentation with fancy new algorithms.

Activity 4: Success on Day 1 is not guaranteed.

With AI, can you expect complete success on Day 1? Probably not. But the expectation of having a quick return on investment, brings down the shutters on the project. This is an eternal "Sales vs. Engineering" tussle—and everybody in business has a fair understanding of it, but still, insists on believing the unbelievable.

Except for very specific rule-based problems where the scope and boundaries are well-defined and resolutions steps are certain, no AI solutions can give near 100% accuracy in any relatively unknown client instance from day one. The phrase 'machine learning' has the word 'learning'—which is a continuous, incremental, contextual value and relevance-augmenting process.

Activity 5: Data, yes, but is it "clean"?

As we all know, the machine learning algorithms expect a lot of training data to continuously learn and evolve. While we think we have huge data, most of it can't be used as-is. This is most underestimated piece of work that needs to be explicitly planned for, in terms of:
- Specialist resources
- Timelines
- Effort estimates
- Budget,
- Technical constraints (like data security, privacy, access and privilege issues).

For example, in the advent of the GDPR regulations in EU, any customer data that will have direct or indirect references to PII, cannot be utilized even for activities that do not involve personalized services.

Activity 6: Retaining critical talent

Most AI projects typically take a longer period, from the launch to reaching a state of maturity. With the talent for AI in high demand, maintaining continuity of the critical team members is a risk factor. It takes a lot of time for a team to come together, learn and analyze a specific client's realities and priorities, build prototypes, test them, and run multiple cycles of augmenting the solutions. Continuity of contextual intelligence in the team is a critical requirement towards creating the most relevant and immersive solution that fits exactly to and reflects the client scenario—which is a must-do to drive adoption.

Activity 7: Arrange for domain expertise

Many AI projects have failed as the domain of the end users has neither been understood nor contextualized well. Based on the business case, include an almost full-time domain expert who can help the technical team in bringing in the required context into the AI solution. A domain expert should also be one of the stakeholders signing off on the accuracy of the solution.

Activity 8: It's a journey

With AI projects, do you think you can sit back & relax after first go live? The problem is going to get more and more complex. On the other side, end user expectations are going to go up and up.

Summary

Executing AI projects are quite different from regular software development projects. The probability of failure is higher due to the increased complexity as well as the unpredictability in certain scenarios. While a project could be technically marked as completed, it would be successful only when it is widely adopted by end users and business gets its ROI. This requires deep analysis of the potential failure traps and plans to mitigate them so that you get AI at the right place in the right process at the right time in your organization.

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He is responsible for creating solutions to bring in automation in the IT RUN business that includes both Application and Infrastructure domains. His focus is on bringing in the best of RPA and AI capabilities, to create a holistic automation platform for IT automation.

Narayanan has worked in technical as well as transformational roles across Managed Service programs. He has over 21 years of experience in Wipro, having started his career as a programmer in Wipro. He was part of the core team that built the Wipro ServiceNXT framework for transforming managed services programs where he was responsible for building multiple products.

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